

LISTING OF CLAIMS

1. (Currently Amended) A method comprising:

measuring a communication channel characteristic **of a wireless communication channel** for a local wireless network node **of a network of nodes**;

determining a local transmission threshold **for the local wireless network node** based on the **measured communication** channel characteristic, **wherein the local transmission threshold includes a physical carrier sense threshold indicating a threshold level of interference that is tolerable for a physical layer of the local wireless network node, where interference sensed in the network by the local wireless network node exceeding the local transmission threshold causes the local wireless network node to back off from transmission**;

receiving a transmission threshold from a remote network node, **the received transmission threshold indicating a threshold level of interference that is tolerable for a physical layer of the remote network node, where interference sensed in the network by the remote network node exceeding the received transmission threshold causes the remote network node to back off from transmission**; and

adjusting automatically the hardware settings of the **physical layer of the** local wireless network node based on the local transmission threshold and the received transmission threshold, **including selecting the lower transmission threshold of the local transmission threshold and the received transmission threshold, and adjusting the hardware settings to make the wireless network node responsive to the selected transmission threshold, where interference exceeding the selected transmission threshold causes the local wireless network node to back off from transmission on the wireless communication channel**.

2. (Original) A method according to claim 1, wherein measuring the communication channel characteristic comprises determining a signal to noise-plus-interference ratio (SNIR) for the communication channel for the local wireless network node.

3. (Canceled)

4. (Original) A method according to claim 1, further comprising transmitting the determined local transmission threshold to another node in the wireless network.

5. (Original) A method according to claim 1, wherein adjusting the hardware settings of the local wireless network node is performed at periodic intervals, and the hardware settings remain constant throughout the interval.

6. (Canceled)

7. (Original) A method according to claim 1, wherein receiving the transmission threshold from the remote network node comprises receiving a transmission threshold for multiple neighboring network nodes, and adjusting automatically the hardware settings of the local wireless network node based on the local transmission threshold and the received transmission threshold comprises adjusting the hardware settings of the local wireless network node based on the local transmission threshold and all received transmission thresholds.

8. (Currently Amended) A network element **of a wireless network** comprising:
a receiver to receive a carrier sensing signal ~~from source~~ **sent from the** network element **to determine a physical carrier sense (PCS) characteristic of the network element**, and to receive from a neighboring network element a signal ~~having indicating a physical carrier sense (PCS)~~ **PCS** characteristic of the neighboring network element, **where the received PCS characteristic of the neighboring network element indicates a threshold level of interference that is tolerable for a physical layer of the neighboring network element, where interference in the wireless network exceeding the received PCS characteristic of the neighboring network element causes the neighboring network element to back off from transmission;**

a transmitter to transmit a PCS characteristic determined for ~~[[to]]~~ the network element;

a processor coupled with the receiver and the transmitter, to process the received carrier sensing signal and determine a PCS characteristic for the network element based at least in part on the signal to noise ratio of the received carrier sensing signal, **where the determined PCS**

characteristic of the network element indicates a threshold level of interference that is tolerable for a physical layer of the network element, where interference in the wireless network exceeding the determined PCS characteristic of the network element causes the network element to back off from transmission, and the processor to further determine an updated ~~update the~~ PCS characteristic for the network element based at least in part on the determined PCS characteristic ~~determined~~ for the network element and the received PCS characteristic of the neighboring network element, including determining which of the determined PCS characteristic for the network element or the received PCS characteristic for the neighboring network element is lower in value and selecting the lower value of the PCS characteristics as a value of the updated PCS characteristic; and

hardware control circuitry to set the hardware PCS threshold of the network element to the value of the updated PCS characteristic, where interference in the wireless network exceeding the updated PCS characteristic causes the network element to back off from transmission.

9. (Original) A network element according to claim 8, wherein transmitter transmits the determined PCS characteristic to neighboring nodes in the wireless network.

10. (Original) A network element according to claim 8, wherein the receiver to receive the PCS characteristic from the neighboring network element comprises the receiver to receive transmission from a centralized control node that receives and distributes PCS characteristics for multiple nodes of the network.

11. (Original) A network element according to claim 8, wherein the hardware control circuitry sets the hardware PCS threshold at periodic intervals and does not alter the hardware PCS threshold setting during the interval.

12. (Canceled)

13. (Currently Amended) A ~~system~~ wireless electronic device comprising:

a wireless device ~~chipset~~ hardware circuit having:

a processor to determine a hardware carrier sensing sensitivity level based at least in part on a carrier sensing level determined for ~~[[a]]~~ the wireless electronic device based on ~~[[the]]~~ an interference condition of a communication channel and a carrier sensing level received from a remote wireless electronic device in ~~[[the]]~~ a network that produces interference on the communication channel, wherein the carrier sensing level determined for the wireless electronic device indicates a threshold level of interference that is tolerable for a physical layer of the wireless electronic device, where interference on the communication channel exceeding the threshold level indicated by the carrier sensing level determined for the wireless electronic device causes the wireless electronic device to back off from transmission on the communication channel, and wherein the received carrier sensing level for the remote wireless electronic device indicates a threshold level of interference that is tolerable for a physical layer of the remote wireless electronic device, where interference in the network exceeding the threshold level indicated by the received carrier sensing level for the remote wireless electronic device causes the remote wireless electronic device to back off from transmission; and

a control circuit to adjust the hardware carrier sensing sensitivity level to the determined level, where interference in the wireless network exceeding the updated PCS characteristic causes the network element to back off from transmission; and

a flash memory coupled with the chipset to store data from the processor and provide stored data to the processor.

14. (Currently Amended) A ~~system~~ wireless electronic device according to claim 13, wherein the processor determines the carrier sensing level based at least in part on a carrier sensing threshold determined from a signal to noise ratio (SNR) for the communication channel for the wireless electronic device.

15. (Currently Amended) A ~~system~~ wireless electronic device according to claim 13, wherein the control circuit adjusts the hardware carrier sensing sensitivity level at periodic intervals.

16. (Currently Amended) A ~~system~~ wireless electronic device according to claim 13, wherein the ~~chipset~~ hardware circuit further comprises a transmission control circuit to cause a wireless transmitter on the electronic device to transmit the determined carrier sensing sensitivity level to another electronic device in the network.

17. (Currently Amended) An article of manufacture comprising a machine-accessible storage medium having content stored thereon to provide instructions to cause an electronic system to:

measure a communication channel characteristic of a wireless communication channel for a local wireless network node of a network of nodes;

determine a local transmission threshold for the local wireless network node based on the measured communication channel characteristic, wherein the local transmission threshold includes a physical carrier sense threshold indicating a threshold level of interference that is tolerable for a physical layer of the local wireless network node, where interference sensed in the network by the local wireless network node exceeding the local transmission threshold causes the local wireless network node to back off from transmission;

receive a transmission threshold from a remote network node, the received transmission threshold indicating a threshold level of interference that is tolerable for a physical layer of the remote network node, where interference sensed in the network by the remote network node exceeding the received transmission threshold causes the remote network node to back off from transmission; and

adjust automatically the hardware settings of the physical layer of the local wireless network node based on the local transmission threshold and the received transmission threshold, including selecting the lower transmission threshold of the local transmission threshold and the received transmission threshold, and adjusting the hardware settings to make the wireless network node responsive to the selected transmission threshold, where interference exceeding the selected transmission threshold causes the local wireless network node to back off from transmission on the wireless communication channel.

18. (Original) An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to measure the communication channel characteristic comprises the content to provide instructions to cause the electronic device to determine a signal to noise-plus-interference ratio (SNIR) for the communication channel for the local wireless network node.

19. (Original) An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to determine a transmission threshold comprises the content to provide instructions to cause the electronic device to determine a physical carrier sense threshold.

20. (Original) An article of manufacture according to claim 17, further comprising the content to provide instructions to cause the electronic device to transmit the determined local transmission threshold to another node in the wireless network.

21. (Original) An article of manufacture according to claim 17, wherein the content provide instructions to cause the electronic device to adjust the hardware settings of the local wireless network node at periodic intervals.

22. (Canceled)

23. (Original) An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to receive the transmission threshold from the remote network node comprises the content to provide instructions to cause the electronic device to receive a transmission threshold for multiple neighboring network nodes, and wherein the content to provide instructions to cause the electronic device to adjust automatically the hardware settings of the local wireless network node based on the local transmission threshold and the received transmission threshold comprises the content to provide instructions to cause the electronic device to adjust the hardware settings of the local wireless network node based on the local transmission threshold and all received transmission thresholds.

24. (Currently Amended) An apparatus comprising:

a processor to determine a carrier sensing threshold for the apparatus based at least in part on interference associated with a communication channel of a transmission medium, including determining a physical carrier sense threshold for the apparatus indicating a threshold level of interference that is tolerable for a physical layer of the apparatus, where interference on the communication channel exceeding the threshold level causes the apparatus to back off from transmission on the communication channel, and based at least in part on a remote carrier sensing threshold of a remote wireless network device sent to the apparatus from the remote wireless network device, the remote carrier sensing threshold indicating a threshold level of interference that is tolerable for a physical layer of the remote wireless electronic device, where interference in the network exceeding the threshold level indicated by the remote carrier sensing level for the remote wireless electronic device causes the remote wireless electronic device to back off from transmission, wherein the determined carrier sensing threshold for the apparatus is selected as the lower of the physical carrier sense threshold for the apparatus and the remote carrier sense threshold for the remote wireless network device; and

a control circuit to adjust the carrier sensing threshold to the determined carrier sensing threshold to cause the apparatus to be responsive to the determined carrier sensing threshold, where interference exceeding the determined carrier sensing threshold causes the apparatus to back off from transmission on the communication channel.

25. (Previously Presented) An apparatus according to claim 24, wherein the processor to determine the carrier sensing threshold based on the interference further comprises the processor to determine a signal to noise ratio (SNR) for the communication channel.

26. (Canceled)

27. (Currently Amended) An apparatus according to claim 24, further comprising the processor to prepare a message having the determined carrier sensing threshold to transmit to the **remote** wireless network device.

28. (Canceled)

29. (Previously Presented) An apparatus according to claim 24, wherein the control circuit to adjust the carrier sensing threshold comprises the hardware control circuit to adjust the carrier sensing threshold at periodic intervals.